



**Defense Information Systems Agency**

Department of Defense

# Computing Services

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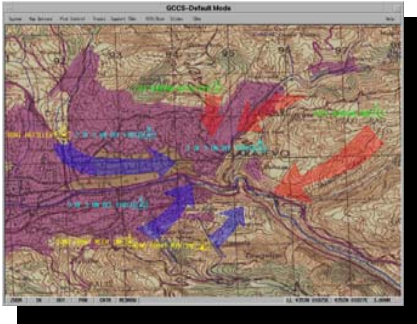
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**August 8, 2008**

Report Documentation Page				Form Approved OMB No. 0704-0188	
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1. REPORT DATE <b>08 AUG 2008</b>		2. REPORT TYPE <b>N/A</b>		3. DATES COVERED <b>-</b>	
4. TITLE AND SUBTITLE <b>Computing Services</b>				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) <b>Defense Information Systems Agency (DISA) Computing Services</b>				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release, distribution unlimited</b>					
13. SUPPLEMENTARY NOTES <b>Briefings presented at the DISA Forecast to Industry 2008 on August 8, 2008 at the FDIC Training Center in Arlington, VA, The original document contains color images.</b>					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT <b>UU</b>	18. NUMBER OF PAGES <b>9</b>	19a. NAME OF RESPONSIBLE PERSON
a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>			



# Combat Support Computing

**We run the IT systems that . . .**



**provide command  
and control**



**provision ships**



**provide  
medical care**



**manage parts and  
replenish supplies**



**manage transportation**



**pay the warfighters**



**manage maintenance**



# Guiding Principles

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- **Operational excellence in all aspects of data center management**
  - Facilities and communications infrastructure
  - State-of-the-art toolsets for operators and technicians
  - NetOps processes and procedures
- **A cost-effective business environment to support the warfighting customer**
  - Consolidation and virtualization of computing assets, wherever practicable
- **Speed in delivering capacity to the datacenter floor**
  - Managed services partnerships
- **ITIL-based processes**



# Virtualization & Application Stacking

## Current Hosting: (typically)

Physical Platforms  
w/ one Operating Environment (OE)  
and one Application

Platform #1

App #1  
(20% CPU  
Utilization)

Platform #2

App #2  
(20% CPU  
Utilization)

Platform #3

App #3  
(20% CPU  
Utilization)



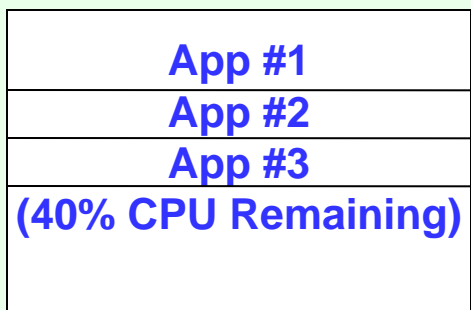
240%  
excess  
capacity

## Future Hosting:

Computing Services is the Driver:

Virtualization

One physical platform  
w/ three OEs



← OE  
← OE  
← OE

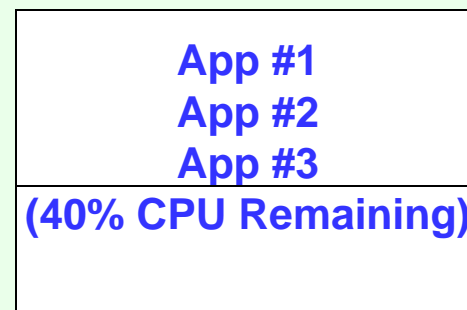
### Benefits:

- Reduction in HW services costs

Customer is the Driver:

Application Stacking

One physical platform  
w/ one OE



} OE

### Benefits:

- Reduction in HW services costs  
and
- Reduction in SysAdmin costs



# Looking Ahead

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**So, what's our focus for the  
next 18-24 months**

**and**

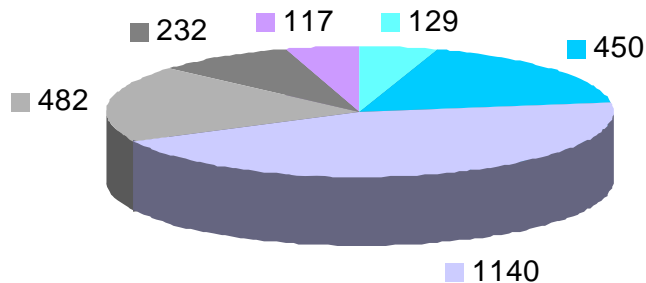
**Where can you help?**



# DECC “Glass-House” Communications

## Communication Devices by Function

MAINFRAME ROUTERS SWITCHES SECURITY MANAGEMENT STORAGE



Terminal controller	43	IDS	22
Network controller	57	ACS	36
Channel extenders	24	DNS	32
Channel directors	5	Firewall	258
Premise	87	Crypto	81
VPN	42	Other	53
Other	321	Gigamon	32
Collocated	30	Packet capture	26
Core	53	HP Openview	46
Edge	866	Vantage	18
Content	35	Internet control	39
Backup	18	IP address mgmt	47
Other	138	Other	24
		Channel directors	69
		Channel extender	35
		Network controller	13

## Challenge

- Keeping pace with rapidly growing # of enclaves
- Technology shift to protect and enforce security boundaries
- Managing content as an *extension* of the glass house (e.g., GCDS)

## Communication Provider(s)

- Vendor retains asset ownership; DISA manages and operates
- Hardware and software provided and priced on “usage” basis
- Maintenance support/upgrades performed as required

## Value Added

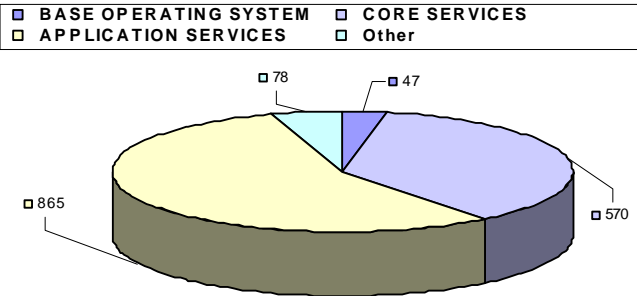
- Ability to rapidly change/grow baseline
- Allows technology infusion on a timely basis

**Builds upon our current capacity initiatives**



# Software as a Service (SaaS)

**Software Products by Category**



CATEGORY	Products
OPERATING SYSTEMS SERVICES	47
DISTRIBUTED SYSTEMS SERVICES	23
NETWORK SERVICES	111
PRINT MANAGEMENT SERVICES	24
SECURITY AND AUDIT SERVICES	96
STORAGE MANAGEMENT SERVICES	111
SYSTEM ADMINISTRATION SERVICES	97
SYSTEM SUPPORT MONITOR SERVICES	102
SYSTEM UTILITIES	6
APPLICATION DEVELOPMENT TOOLS	109
APPLICATIONS	114
DATA ACCESS SERVICES	3
DATA MANAGEMENT SERVICES	29
GENERAL UTILITIES	328
LANGUAGE SERVICES	118
OPEN SERVICES	8
REPORT MANAGERS	40
TRANSACTION PROCESSING MONITORS	116
Other	78

## Challenge

- Consolidation and rationalization
- Large number of software vendors...215
- Dynamic processing requirements
- Out-year capital projections

## SaaS Provider(s)

- Manage software on “usage” basis
- Support based on established, negotiated prices
- Include future versions/releases
- Provide maintenance and patches

## Value Added

- Licensing flexibility
- Supportability to Rapid Access Computing Environment (RACE) and similar initiatives



# “Greening” DECC Infrastructure



## Challenge

- Increasing energy costs
- Increased cooling requirements to support more compact implementations
- Increased regulatory environment

## Possible Support

- Virtualization
- Duct cooling
- Variable frequency drives
- Motion sensor lighting
- Water reclamation

## Value Added

- Improved life-cycle management across DECCs
- Better consistency and standardization with preventive maintenance actions



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